

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously amended) A composite rigid foam structure comprising:

a rigid reticulated foam substrate having a surface and pores, said pores having an average diameter, and

a formed in situ skin substantially uniformly bonded directly to at least a portion of said surface, said skin generally penetrating said rigid foam substrate to a depth of less than about 5 of said average pore diameters, said skin having an interconnected porosity and adapted to allowing gas to flow through said skin and out of said composite rigid foam structure.

2. (currently amended) A composite structure of claim 1, wherein said rigid reticulated foam substrate comprises an inorganic material having at least ~~from about 20 to 30~~ pores per linear inch.

3. (currently amended) A composite structure of claim 1, wherein the rigid foam substrate and the skin are made of ~~about the same inorganic materials~~ metals, ceramics, glasses, or inorganic polymers.

4. (non-elected) The composite structure of claim 1, wherein at least one of said rigid reticulated foam substrate and skin comprises metal.

5. (non-elected) The composite structure of claim 1, wherein said rigid reticulated foam substrate and said skin comprise different metals.

6. (original) The composite structure of claim 1, wherein at least one of said rigid reticulated foam substrate and skin comprises ceramic.
7. (non-elected) The composite structure of claim 1, wherein said rigid reticulated foam substrate comprises carbon.
8. (non-elected) The composite structure of claim 1, wherein at least one of said rigid reticulated foam substrate and skin comprises glass.
9. (non-elected) The composite structure of claim 1, wherein said rigid reticulated foam substrate and said skin comprise polymers.
10. (non-elected) The composite structure of claim 1, wherein one of said rigid reticulated foam substrate and said skin comprises metal and the other comprises ceramic.
11. (rewritten as claim 17)
12. (original) The composite structure of claim 1 wherein the continuous skin has penetrated into said rigid reticulated foam substrate for a depth of less than approximately 2 average pore diameters.

13. (non-elected) A method of forming a composite rigid foam structure comprising:

selecting a solid three-dimensional rigid foam substrate having at least one surface and pores, said pores in said foam substrate being defined by their peripheries and having an average diameter, and

thermally spraying a material that is at least partially fluid onto said surface to form a solid phase skin on said surface, said skin being attached to substantially all of said peripheries, and said skin extending no more than about 5 average pore diameters into said rigid foam substrate.

14. (non-elected) A method of forming a composite foam structure of claim 13 including selecting a hollow three-dimensional rigid foam substrate having inner and outer surfaces, and thermally spraying said material on at least one of said inner and outer surfaces.

15. (new) A composite rigid foam structure comprising:

a rigid reticulated foam substrate having a surface and pores, said pores having an average diameter, and

a formed in situ skin substantially uniformly bonded directly to at least a portion of said surface, said skin generally penetrating said rigid foam substrate to a depth of less than about 5 of said average pore diameters, said skin having a substantially uniform interconnected porosity and adapted to allowing substantially uniform gas flow through said skin and out of said composite rigid foam structure.

16. (new) A composite rigid foam structure comprising:

a rigid reticulated foam substrate having a surface and pores, said pores having an average diameter, and

a formed in situ skin substantially uniformly bonded directly to at least a portion of said surface, said skin generally penetrating said rigid foam substrate to a depth of less than about 5 of said average pore diameters, said skin having an interconnected porosity extending entirely therethrough and adapted to allowing transpiration cooling of said composite rigid foam structure.

17. (Claim 11 rewritten in independent form) A composite rigid foam structure comprising:

a rigid reticulated foam substrate comprising ceramic and having a surface and pores, said pores having an average diameter, and

a formed in situ skin comprising molybdenum disilicide, said skin being substantially uniformly bonded directly to at least a portion of said surface, said skin generally penetrating said rigid foam substrate to a depth of less than about 5 of said average pore diameters, said skin having an interconnected porosity and adapted to allowing gas to flow through said skin and out of said composite rigid foam structure.